4.0 ENVIRONMENTAL ANALYSIS

INTRODUCTION TO ENVIRONMENTAL ANALYSIS

Section 4 examines the potential environmental impacts of the proposed Project and Project Alternatives. This section includes analyses of the environmental issue areas listed below:

- 4.1 Geological Resources
- 4.2 Hazards and Hazardous Materials
- 4.3 Air Quality
- 4.4 Hydrology, Water Resources, and Water Quality
- 4.5 Biological Resources
- 4.6 Cultural, Historical, and Paleontological Resources
- 4.7 Land Use, Planning, and Recreation
- 4.8 Public Services
- 4.9 Transportation and Circulation
- 4.10 Noise
- 4.11 Aesthetics/Visual Resources
- 4.12 Energy and Mineral Resources
- 4.13 Agricultural Resources
- 4.14 Environmental Justice

Each environmental issue area analyzed in this document provides background information and describes the environmental setting (baseline conditions) to help the reader understand the conditions against which an impact would be evaluated. In addition, each section describes how an impact is determined to be "significant" or "less than significant." Finally, the individual sections recommend mitigation measures (MMs) to reduce significant impacts. Throughout Section 4, both impacts and the corresponding MMs are identified by a bold letter-number designation, e.g., **Impact BIO-1** and **MM BIO-1a**.

Based on an initial review and analysis, it is likely that the proposed Project would have a less than significant impact, or no impact, on the environmental issue areas identified below. The primary reasons for these determinations are as follows:

- Population and Housing. The Project would not require a change in the number of employees nor result in the construction or modification of new or existing facilities. The Project would not induce substantial population growth in the area nor displace substantial numbers of people or housing units.

- Utilities and Service Systems. The Project would not result in additional demand for water, wastewater treatment, or solid waste disposal services that would exceed current capacities.

ASSESSMENT METHODOLOGY

Environmental Baseline

The analysis of each issue area begins with an examination of the existing physical setting (baseline conditions as determined pursuant to section 15125(a) of the State California Environmental Quality Act [CEQA] Guidelines) that may be affected by the proposed Project. The effects of the proposed Project are defined as changes to the environmental setting that are attributable to project components or operation.

Significance Criteria

Significance criteria are identified for each environmental issue area. The significance criteria serve as benchmarks for determining if a component action will result in a significant adverse environmental impact when evaluated against the baseline. According to the State CEQA Guidelines section 15382, a significant effect on the environment means "…a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…"

Impact Analysis

Impacts are classified as:

- **Class I** (significant adverse impact that remains significant after mitigation);

- **Class II** (significant adverse impact that can be eliminated or reduced below an issue's significance criteria);

- **Class III** (adverse impact that does not meet or exceed an issue's significance criteria); or

- **Class IV** (beneficial impact).

A determination will be made, based on the analysis of any impact within each affected environmental issue area and compliance with any recommended mitigation measure(s), of the level of impact remaining in comparison to the pertinent significance criteria. If the impact remains significant, at or above the significance criteria, it is deemed to be Class I. If a "significant adverse impact" is reduced, based on compliance with mitigation, to a level below the pertinent significance criteria, it is determined to no longer have a significant effect on the environment, i.e., to be "less than significant" (Class II). If an action creates an adverse impact above the baseline condition, but such impact does not meet or exceed the pertinent significance criteria, it is determined to be adverse, but less than significant (Class III). An action that provides an improvement to an environmental issue area in comparison to the baseline information is recognized as a beneficial impact (Class IV).

Formulation of Mitigation Measures and Mitigation Monitoring Program

When significant impacts are identified, feasible mitigation measures are formulated to eliminate or reduce the intensity of the impacts and focus on the protection of sensitive resources. The effectiveness of a mitigation measure is subsequently determined by evaluating the impact remaining after its application. As stated above, those impacts meeting or exceeding the impact significance criteria after mitigation are considered residual impacts that remain significant (Class I). Implementation of more than one mitigation measure may be needed to reduce an impact below a level of significance. The mitigation measures recommended in this document are identified in the impact sections and presented in a Mitigation Monitoring Program (MMP). The MMP is provided in Section 6.0.

If any mitigation measures become incorporated as part of a project's design, they are no longer considered mitigation measures under the CEQA. If they eliminate or reduce a potentially significant impact to a level below the significance criteria, they eliminate the potential for that significant impact since the "measure" is now a component of the action. Such measures incorporated into the project design have the same status as any "applicant proposed measures." The CSLC's practice is to include all measures to eliminate or reduce the environmental impacts of a proposed project, whether applicant proposed or recommended mitigation, in the MMP.

Impacts of Alternatives

Section 3.0, Alternatives, provides a list, description and map that identify alternatives to the proposed Project. Each issue area in Section 4.0, Environmental Analysis, presents the impact analysis for each alternative scenario. A summary of the collective impacts of each alternative in comparison with the impacts of the proposed Project is included within the Executive Summary Section.

Cumulative Projects Impact Analysis

Each issue area in Section 4.0, Environmental Analysis, presents the cumulative impact scenario, the focus of which is to identify the potential impacts of the Project that might not be significant when considered alone, but that might contribute to a significant impact when viewed in conjunction with the other projects.

CUMULATIVE RELATED FUTURE PROJECTS

Section 15130 of the State CEQA Guidelines requires that an Environmental Impact Report (EIR) discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(c). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. As defined in section 15355 of the State CEQA Guidelines, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

The geographic scope of the cumulative impact analysis varies depending upon the specific environmental issue area being analyzed. For the purposes of this EIR, a list of past, present, and future relevant projects has been used to evaluate cumulative impacts (see Table 4-1). These projects are located both onshore and offshore in the Ellwood Marine Terminal (EMT) project area and include relevant projects in the port areas of Los Angeles and San Francisco Bay. The cumulative project list includes projects that are either reasonably foreseeable or are expected to be constructed or operated during the life of the proposed Project. This list was compiled from data developed for the following environmental review documents and from consultation with appropriate agencies.

- Final EIR, Comstock Homes Development and Ellwood Mesa Open Space Plan, prepared by the city of Goleta;

Table 4-1
Relevant Cumulative Projects

Project Name/Applicant	Description/Status
Industrial/Marine Projects – EMT Project Area/Los Angeles/San Francisco Bay	
1. Cabrillo Port/BHP Billiton LNG International, Inc.	Offshore LNG Terminal/Pending
2. LNG Terminal at Platform Grace/Crystal Energy LLC	Offshore LNG Terminal/Pending
3. Carpinteria Field Redevelopment Project/Carone Petroleum Corp. and Pacific Operators Offshore Inc.	Redevelop State Leases PRC-4000, PRC-7911, and PRC 3133/Pending
4. Paredon Project/Venoco	Development of offshore oil and gas reserves from onshore facilities/Application submitted
5. Pitas Point Consolidation of Gas Odorant Stations/Venoco	Consolidation of two NG odorant stations/Pending
6. PRC-421 Pier Removal/ARCO	Removal of old pier remnants and installation of a bird nesting structure/Approved and completed
7. Return to production of State Lease PRC-421/ Venoco	Continuation of offshore oil and gas reserves/Application submitted
8. Ellwood Oil Pipeline Installation and Field Improvements, Venoco	Development of offshore oil and gas reserves/Application submitted
9. Platform Grace Mariculture/Hubbs-SeaWorld Research Institute	Installation and operation of marine agriculture pilot plant/Pending
10. Platform Grace/Venoco	Resume oil production/Anticipated, pending Crystal Energy LLC.
11. Port of Long Beach Onshore LNG Terminal/Sound Energy Solutions	Onshore LNG Terminal/Pending
12. Marine Terminal Project, Port of Los Angeles/Pacific Energy	Construct a crude oil receiving facility on Pier 400 with tanks on Terminal Island as well as pipelines in the Port of Los Angeles/Pending
13. Channel Deepening Project/Port of Los Angeles	Navigation channel deepening/Approved, Construction Underway
14. Artificial Reef, San Pedro Breakwater/Port of Los Angeles	Artificial reef development/Approved
15. Martinez Marine Terminal Lease Renewal, Contra Costa County/Shore Terminals LLC	Twenty year lease renewal to continue operating marine oil terminal/Pending
16. John F. Baldwin Navigation Channel Project/San Francisco Bay	Navigation channel deepening/Anticipated
17. Development of 36 non-producing Federal leases/various applicants	Various plans to develop Federal leases/Schedule uncertain due to litigation.

Table 4-1 (continued)
Relevant Cumulative Projects

Project Name/Applicant	Description/Status
Residential, Commercial, Institutional, and Recreational Projects — EMT Project and Alternatives Area	
18. Comstock Homes Development, 7800 block of Hollister Ave./Comstock Homes and Development Partners	62-unit single family development/Approved
19. Ellwood Mesa Open Space Plan/City of Goleta	238-acre (96-hectare) habitat protection and recreation, including trail connections, habitat restoration, parking, etc./Pending
20. Sandpiper Golf Course Renovations, 7925 Hollister Ave.	Renovation and redevelopment of existing golf course: reconfiguration of course layout, demolish existing 8,924 ft^2 (829 m^2) clubhouse and build new 27,651 ft^2 (2,569 m^2) clubhouse, and lot split/Pending (inactive but application not withdrawn)
21. Residences at Sandpiper/7900 block of Hollister Ave.	109-unit residential development/Pending (in litigation)
22. Price Restaurant, 370 Storke Road	900 ft^2 (84 m^2) addition to existing fast food restaurant/Pending
23. Winnikoff, 260 Storke Road	New 2,232 ft^2 (207 m^2) office building/Pending
24. Bacara Resort	62 two- and three-bedroom units/Proposed
25. UCSB North Parcel Faculty Housing/UCSB	236 units of faculty housing on the UCSB North Campus, North Parcel/Approved
26. UCSB Sierra Madre Student Housing/UCSB	151 units of family student housing on the UCSB North Campus, Storke-Whittier Parcel/Approved
27. UCSB West Campus Faculty Housing/UCSB	50 units of faculty housing/Anticipated
28. Expansion of the Orfalea Children's Center/UCSB	10,000 ft^2 (929 m^2) addition to the existing facility/Constructed
29. Replacement of the Cliff House at Coal Oil Point/UCSB	Replacement with a structure equivalent in size to all of the existing and formerly existing buildings at Coal Oil Point/Anticipated
30. Ellwood-Devereux Coast Open Space and Habitat Management Plan/UCSB	Implementation of Open Space Plan actions, including trail connections, habitat restoration, parking, restroom upgrade, etc./Pending
31. Ocean Meadows Residences	56 units of single-family homes and condominiums/Pending
32. Ocean Meadows Golf Course Improvements	Improvements to the clubhouse, parking lot, cart barn and maintenance facility, and a building containing two employee dwellings/Pending
33. Ellwood-Devereux Coast Open Space and Habitat Management Plan/Santa Barbara County	Implementation of Open Space Plan actions, including trail connections, habitat restoration, etc./Pending

Table 4-1 (continued)
Relevant Cumulative Projects

Project Name/Applicant	Description/Status
34. Devereux School Master Plan/701 Storke Rd.	33 acres (13 hectares) and 20 multi-family residential units/Approved
35 Various residential projects in the unincorporated area of Isla Vista	686 residential units/Proposed
36. Various residential projects in the unincorporated area of Goleta	371 residential units/Proposed
37 Various commercial projects in the unincorporated area of Isla Vista	77,485 ft^2 (7,199 m^2) of commercial space/Proposed
38. Various commercial projects in the unincorporated area of Goleta	110,576 ft^2 (10,273 m^2) of commercial space/Proposed
39. Santa Barbara Ranch at Naples/Naples Townsite on both sides of the 101	73 residential units/In Process
40. Morehart Land Company/Naples Townsite south of the 101	8 residential units/Pending
41. Eagle Canyon Ranch/west of Bacara Resort	4 residential units/Pending
42. Las Varas Ranch and Edwards Ranch /West of Naples on both sides of the 101.	7 residential units/Pending
43. Dos Pueblos Ranch Estates Residential Development/Between Eagle and Tomate Canyons	2 residential units/Pending
44. Dos Pueblos Naples Residential Development/Naples	10 residential units/Pending
45. Tecolote Canyon/West of Goleta	26 residential units/Pending
46. El Capitan Campground Expansion	100 new campsites, comfort station, kiosk, bathhouse, swimming pool, spa, and associated support facilities/Approved
47. Gaviota Oil Terminal	County-initiated revision to land use and zone district designations of the site from Coastal-Dependent Industry to Recreation/Pending
48. Gaviota Oil and Gas Processing Facility	County-initiated removal of the Consolidated Oil and Gas Processing designation of Assessors Parcel Number 081-130-070 and redesignation as a Consolidated Pipeline Terminal; County-initiated amendments to the South Coast Consolidation Policies in the Coastal Zone, and addition of permit procedures for Consolidated Pipeline Terminals in the Coastal Zone/Pending

Notes: LNG = liquefied natural gas; UCSB – University of California, Santa Barbara; NG = natural gas; ft^2 = square feet; m^2 = square meters.

Sources: Briggs 2005; California State Lands Commission, United States Coast Guard, and Maritime Administration 2004; California State Lands Commission 2005; City of Goleta 2004; City of Goleta 2005; Gray 2005; Hammond 2005; Santa Barbara County 2004; University of California, Santa Barbara (UCSB) 2004; U.S. Army Corps of Engineers, Los Angeles District and the Port of Los Angeles 2005. Venoco 2005.

- Final EIR, Ocean Meadows Residences and Open Space Plan, prepared by Santa Barbara County;

- Final EIR, Faculty and Student Housing, Open Space Plan, and Long Range Development Plan Amendment, prepared by the University of California, Santa Barbara;

- Draft Environmental Impact Statement (EIS)/EIR, Cabrillo Port Liquefied Natural Gas Deepwater Port, Ventura and Los Angeles Counties, California, prepared by the California State Lands Commission (CSLC), United States Coast Guard, and the Maritime Administration;

- Draft EIS/EIR, Pacific Energy Crude Oil Marine Terminal and Pipelines Project, prepared by the U.S. Army Corps of Engineers, Los Angeles District and the Port of Los Angeles; and

- Final EIR, Shore Terminal LLC Martinez Marine Terminal 20-Year Lease Consideration, prepared by the CSLC.

Industrial and Marine Projects

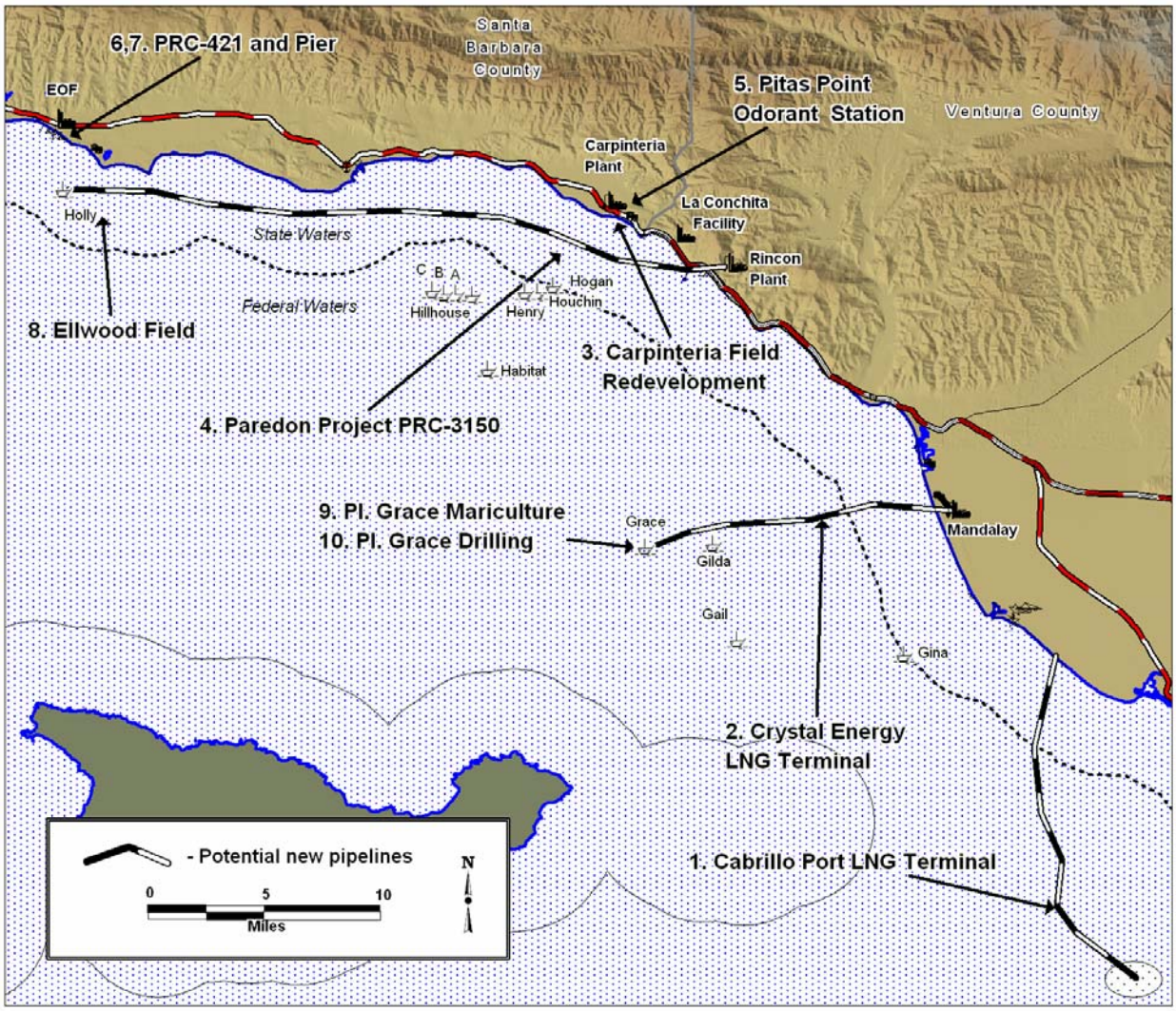
There are several industrial/marine projects proposed in the vicinity of the EMT that may contribute to various cumulative impacts. The projects that are in close proximity to the EMT or that could have impacts on the same resources as the proposed Project are listed in Table 4-1. Figure 4-1 shows the location of these cumulative projects which are summarized below (numbered in accordance with Table 4-1). Please note that the industrial/marine projects located in the Los Angeles and San Francisco Bay areas (numbered 11 to 17 in Table 4-1) are not shown on this figure.

1. Cabrillo Port LNG Terminal, BHP Billiton LNG International, Inc.

The Applicant proposes to construct and operate an offshore floating storage and re-gasification unit (FSRU) that would be moored in Federal waters offshore of Ventura County, approximately 47 miles (76 kilometers [km]) southeast from the EMT. As proposed, liquefied natural gas (LNG) from the Pacific basin would be delivered by an LNG Carrier to and offloaded onto the FSRU; re-gasified; and delivered onshore via two new 22.8-mile (36.6-km), 24-inch-diameter (0.6 meters [m]) natural gas pipelines laid on the ocean floor. These pipelines would come onshore at Ormond Beach near Oxnard, California. A new metering station, including a pig launcher/receiver and odorant station

would be built in addition to odorant being added on the FSRU. New pipelines would be built to carry the gas from the metering station to the storage facility in Santa Clarita. The facilities would be designed to deliver an average of 800 million cubic feet (22.7 million cubic meters [m^3]) per day.

Figure 4-1
Cumulative Industrial and Marine Projects



The FSRU would store LNG in three Moss spherical tanks. Each tank would have a 24-million-gallon (90,800 m^3) LNG storage capacity, and the total FSRU LNG storage capacity would be 72.1 million gallons (273,000 m^3). The FSRU would be permanently moored using a turret system (a tower-like revolving structure), allowing the FSRU to weathervane (rotate) around a fixed point. The FSRU, which would be designed for loading LNG from a side-by-side, moored LNG tanker, would be vessel-shaped, double-

sided, double-bottomed, 971 feet (296 m) long and 213 feet (65 m) wide, and it would have a displacement of approximately 190,000 deadweight tons.

A Draft Environmental Impact Statement (EIS)/EIR was prepared for the project. The Public Comment period for the project EIR/EIS ended on December 20, 2004. A Revised Draft EIR was subsequently prepared and recirculated on March 13, 2006, for a 60-day comment period that ended on May 12, 2006. Following this review, a Final EIS/EIR will be prepared. Upon receiving all necessary approvals, project construction is expected to be completed in 2008 to 2009.

2. LNG Terminal at Platform Grace, Crystal Energy LLC

Clearwater Port would use existing offshore Platform Grace (approximately 29 miles [47 km] southeast from the EMT) to import LNG. Reconfiguration of the platform would involve installing an LNG transfer system, a cool down system, six LNG pumps, six LNG vaporizers, and reinstalling and upgrading the platform's power-production capability, while allowing continuing oil and gas production. LNG would be transported by ship to Platform Grace, where it would be converted back into vapor form. A new floating dock would be installed adjacent to the platform to moor LNG vessels during transfer. No additional onsite storage is expected, but if required, Crystal Energy would contract with existing onshore storage facilities. The natural gas would be delivered from the platform to shore in a new, 13-mile (21 km), 32-inch-diameter (81-centimeter [cm]) sub-sea pipeline, using an existing pipeline corridor to minimize disturbance to the marine environment. The natural gas would come onshore by pipeline to a landing at an existing industrial site, the Mandalay Power Generating Station in Oxnard. From the landfall at Mandalay, a new 12-mile (12 km) underground pipeline would tie into an existing 30-inch-diameter (76 cm) Southern California Gas Company (The Gas Company) pipeline at their preferred pipeline tie-in point near Camarillo.

Average anticipated LNG terminal throughput capacity would be 800 million cubic feet per day (MMCFD) (23 million m^3/d), with a peak throughput capacity of 1,200 million standard cubic feet per day (MMSCFD) (34 million m^3/d).

Crystal Energy filed its application with the United States Coast Guard on January 28, 2004, and the CSLC on February 10, 2004. The application was reviewed by these agencies and was deemed incomplete by both agencies. The proposed terminal is projected by such applications to be operational by early 2007.

3. Carpinteria Field Redevelopment Project, Carone Petroleum Corporation and Pacific Operators Offshore Inc.

Carone has applied to the CSLC to develop and produce existing State Oil and Gas Leases PRC-4000, PRC-7911, and PRC-3133 within the Carpinteria Field. Specifically, Carone proposed to drill up to 25 new production or injection wells from Outer Continental Shelf (OCS) Platform Hogan. Oil and gas production from the State Leases would be commingled on Platform Hogan with existing production from the Federal lease and sent via existing pipelines to the La Conchita Facility. After processing, gas and oil are sold to The Gas Company and other third parties at the La Conchita sales meters, and shipped via existing pipelines. A Draft EIR/EIS is currently being prepared.

4. Paredon Project PRC-3150, Venoco

Venoco applied to the CSLC (application received in February 2005) and to the city of Carpinteria to develop existing State Oil and Gas Lease PRC-3150.1 by conducting extended-reach drilling from an onshore site located within Venoco's existing Carpinteria Oil and Gas Processing Facility (Venoco Carpinteria Facility), in the city of Carpinteria. Venoco estimates that this project could produce up to 10,000 barrels per day (BPD) (1,590 m^3/day) of crude oil and 10 MMSCFD (283,169 m^3/day) of gas. After processing, oil would enter an existing 16-inch-diameter (41 cm) pipeline to the Rincon Onshore Separation Facility (ROSF) for connection with the existing pipeline system extending to Los Angeles refineries. Processed gas would be delivered via the existing 6-inch-diameter (15 cm) pipeline connection to Southern California Gas Company's existing regional 12-inch-diameter (30 cm) pipeline that passes near the Venoco Carpinteria Facility. The application was found complete in October 2005 and a Draft EIR is currently being prepared.

5. Pitas Point Consolidation of Gas Odorant Stations, Venoco

Venoco applied to the city of Carpinteria Planning Commission for the relocation of an existing Natural Gas Odorant and Custody Transfer Station (Carpinteria station) from within the Venoco Carpinteria Facility property to the existing Pitas Point Facility, located 200 feet (61 m) west of the southwest corner of the Venoco Carpinteria Facility property. The proposal includes dismantling the Carpinteria station; re-routing the gas pipeline to the Pitas Point station; constructing approximately 1,800 linear feet (550 m) of new pipeline, located both above and below ground; constructing a new 1,000-gallon (4 m^3) odorant tank, which would replace an existing 1,200-gallon (4.5 m^3) odorant tank; constructing a new 8-foot-tall (2.4 m) fence around the facility; and constructing a new

Venoco meter in addition to the existing meter. The EIR for the project was certified in August 2004. Project construction is expected to start in the beginning of 2006.

6. State Lease PRC-421 Remnant Pier Removal, ARCO

The objective of this project proposed by ARCO was to facilitate continued nesting and roosting of marine birds, while making the area safer for mariners. The remnants of the pier within State Lease PRC-421 are located approximately 2 miles (3.2 km) west of Coal Oil Point in the Santa Barbara Channel, off the coast of the city of Goleta. The visible remnant pier structure is approximately 850 feet (260 m) offshore in approximately 32 feet (10 m) of water.

The project included: (1) removal of the wooden and steel deck structure, toppling of the eight remnant caissons, and removing other pier-associated seafloor debris; (2) installation of four piles with installation of bird roosting/nesting platforms, and construction of a hard-bottom substrate; (3) transportation and recycling of debris; and (4) completion of a final underwater survey to ensure removal of all debris from the project site.

The existing structure was removed utilizing typical offshore methodology and equipment. The project required the use of a Load Line Barge. Due to the existence of hard bottom and an associated kelp community in the area, an anchor-assist tugboat was used to deploy anchors in designated anchor sites located within soft-bottom areas. In addition, other support vessels were utilized, as required, for deploying anchors and transporting personnel and equipment to and from the project area.

The demolition and removal of the main deck of the pier consisted of systematically cutting and removing manageable pieces with conventional mechanical and oxy-acetylene cutting and rigging equipment. Removal of the pieces was conducted with the use of a 230-ton (209 metric ton) conventional crane located onboard the barge.

The project entailed only construction, which was finished in December 2005; no long term impacts or operational activities, other than routine, scheduled maintenance are anticipated. If after 5 years the Department of Fish and Game determines that the project is unsuccessful, ARCO will be required to remove the structure.

7. Return to Production of State Lease 421, Venoco

Venoco is proposing to return State Lease PRC-421 to production. The plan for this project was received in May 2004, and it has been reviewed by the Santa Barbara

County Energy Division, in consultation with the city of Goleta, as well as by the CSLC. The project includes the removal of old production equipment from oil piers 421-1 and 421-2 (which are California's last remaining surfzone oil piers); repairs to the access road, rock rip-rap wall, and caisson at the end of pier 421-1; installation of a drilling rig and new oil separation and processing equipment on pier 421-2; and reactivation of the oil well on pier 421-2 with a capacity to produce up to 700 BPD (111 m^3/d). The oil would be pumped to Line 96 through an existing pipeline and then to the EMT. The existing pipeline between Line 96 and the 421-1 pier would be upgraded. The CSLC, Santa Barbara County, and the city of Goleta provided comments on the proposed plan, including local permitting and policy concerns. The public scoping meeting for this project was held on June 23, 2005 and the preparation of a Draft EIR is underway.

8. Ellwood Oil Pipeline Installation and Field Improvements, Venoco

In August 2005, Venoco submitted an application to the CSLC, Santa Barbara County, and the city of Goleta with a number of project components. The project would include:

- Construction of a new 10-inch (25-cm) diameter, 10-mile (16-km) onshore pipeline to transport oil from the Ellwood Onshore Facility (EOF) to the Plains All American Pipeline system at Las Flores Canyon;
- Decommissioning and abandonment of the EMT and Line 96. Restoration of the EMT site and discontinuation of marine transportation via barge;
- Adjustment of the existing PRC 3242.1 lease boundary to encompass the eastward section of the South Ellwood Field;
- Drilling of up to 40 new wells on both the existing leases and the proposed project area;
- Replacement of the existing crane on Platform Holly;
- Replacement of the existing 2-inch (5-cm) utility pipeline and subsea power cable between the EOF and Platform Holly; and
- Various improvements at the EOF, including a new power generation plant.

Oil production is expected to peak at 12,600 BPD (2,003 m^3/day) and gas production at 20 MMSCFD (566,337 m^3/day) after five years. The application was found incomplete and is being revised. Although the schedule for this project is unknown, if the project is

implemented, it would result in the decommissioning and abandonment of the EMT since there would be no further need for barging.

9. Platform Grace Mariculture Project, Hubbs-SeaWorld Research Institute

Development of the Grace Mariculture Project would not require any substantial new equipment on the platform or modification of the existing platform structure. As proposed, the project would include four submerged cages around the platform as well as tanks on the main platform deck for hatchery and nursery operations. The project would utilize the existing platform infrastructure and energy resources at well-below-historical levels and well within the design parameters of the structure. The pilot scale phase of the project is expected to last three years, at the end of which, the project would be reassessed. This project will either be finished or could potentially co-exist with the Crystal Energy LNG Terminal on Platform Grace (described in No. 2, above), by the time the LNG Terminal project is approved and its construction begins.

10. Return to Production of Platform Grace, Venoco

Venoco has announced plans to resume oil production at Platform Grace (approximately 29 miles [47 km] southeast of the EMT). Venoco has not yet filed an application so the details of the project are not known. It is doubtful that returning Platform Grace to production could coexist with the implementation of the Crystal Energy LNG Terminal (No. 2) and the mariculture project (No. 9).

11. Port of Long Beach Onshore LNG Terminal, Sound Energy Solutions

Sound Energy Solutions has proposed constructing and operating a 27-acre (10.9-hectare) onshore LNG receiving terminal at Pier T at the Port of Long Beach (POLB). The facility would include an LNG carrier berth, two full containment storage tanks, shell and tube vaporizers, metering and odorizing facilities, and a natural gas pipeline connecting to an existing SoCalGas pipeline. The project would have an average natural gas throughput of 700 MMCFD. The EIS (Federal Energy Regulatory Commission)/EIR (POLB) for the project was released for public review and comment October 10, 2005.

12. Marine Terminal Project, Port of Los Angeles, Pacific Energy Systems

Pacific Energy Systems proposes to construct a crude oil receiving facility on Pier 400 with tanks on Terminal Island, as well as pipelines between berths, tanks, and pipeline system. There will be 75 additional tanker calls to the Port per year (approximately 5 to 8 per month) with a maximum capacity of approximately 2.5 million barrels per tanker.

The tankers will be coming from South America, the Middle East, and Canada. The oil will be processed at Los Angeles area refineries.

13. Channel Deepening Project, Port of Los Angeles

This project would deepen the Port of Los Angeles Main Channel to a maximum depth of -55 feet mean lower low water. Lesser depths are considered as project alternatives. Approximately 3.9 to 8.5 million cubic yards of sediments would be removed. The sediments would be disposed of at several sites. The EIR/EIS certified for the project identified significant air and noise impacts. This project is approved and construction is underway.

14. Artificial Reef, San Pedro Breakwater, Port of Los Angeles

This project would develop an artificial reef site south of the San Pedro Breakwater. It would provide an opportunity for the suitable reuse of clean construction materials, and to create bottom topography to promote local sport fishing. The Negative Declaration for the project has been adopted.

15. Martinez Marine Terminal Lease Renewal, Contra Costa County, Shore Terminals LLC

Shore Terminals, LLC is an independent, privately owned trans-shipper of crude oil and petroleum products. Shore Terminals operates the marine terminal and storage facilities in an industrial area of the city of Martinez east of Interstate 680 in Contra Costa County. Shore Terminals LLC's request for a 20 year lease was approved by the CSLC on August 8, 2005. The new lease will allow Shore Terminals to continue current operations until 2018.

16. John F. Baldwin Navigation Channel Project, San Francisco Bay

The proposed channel deepening involves approximately 16 miles (26 km) of existing navigational channels extending from north of Angel Island and central San Francisco Bay to the vicinity of Pacheco Creek in Suisun Bay to 35 feet (11 m). The purpose of the channel deepening is to provide improved direct access of large oil tankers to the petroleum refineries and terminals adjacent to the Carquinez Strait. This would reduce vessel-to-vessel lightering of crude oil and reduce tanker traffic in San Francisco Bay. This project is currently in the concept phase.

17. Offshore Oil and Gas Leasing

Currently, there are 79 OCS oil and gas leases offshore of Southern California, which include 43 producing leases. Production from these leases is expected to continue for the next five to 20 years. The Minerals Management Service (MMS) currently has no proposals for decommissioning offshore facilities.

There are also 36 non-producing leases. These leases were acquired between 1968 and 1982 but never developed primarily due to delays by Federal regulators, the State's environmental and safety concerns, in addition to increased power to assess the effects of oil drilling, and various lawsuits. In November 2005 a Federal judge ordered the U.S. government to repay $1.1 billion to the oil and gas companies that hold these leases but have been unable to develop them. The oil and gas companies have said that they will give back the leases once they receive the $1.1 billion settlement and additional related costs.

In a related but separate court case, in August 2005 a federal judge blocked plans to extend the oil and gas leases until the MMS performs more extensive environmental analysis of potential impacts.

Residential, Commercial, Institutional, and Recreational Projects

In addition to the industrial and marine projects, there are various residential, institutional, recreational, or commercial projects that could contribute to a cumulative impact in the area surrounding the proposed Project and Alternatives. Figure 4-2 indicates the location of the cumulative projects in the immediate project area. These projects are under the jurisdiction of the city of Goleta, Santa Barbara County, and UCSB and are listed by corresponding number in Table 4-1.

Further, the Santa Barbara County Board of Supervisors approved amendments to oil transportation policies and regulations in October 2004, that would require all oil produced from offshore reserves to be transported by pipeline. The amendments do not apply to onshore producers, and would not affect the current onshore production or the vested rights of Venoco to operate the EMT. These amendments to the County's Local Coastal Program have been submitted to the Coastal Commission for certification. As of December 2005, the Coastal Commission hearing has been postponed.

Figure 4-2
Cumulative Residential, Commercial, Institutional, and Recreational Projects

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